

ORIGINAL

BEFORE THE  
POSTAL RATE COMMISSION  
WASHINGTON, D.C. 20268-0001

RECEIVED

AUG 22 3 13 PM '96  
POSTAL RATE COMMISSION  
OFFICE OF THE SECRETARY

Special Services Fees and Classifications) Docket No. MC96-3

OFFICE OF THE CONSUMER ADVOCATE  
INTERROGATORIES TO UNITED STATES POSTAL SERVICE  
(OCA/USPS-48-56)  
(August 22, 1996)

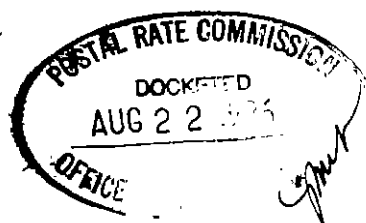
Pursuant to sections 25 and 26 of the Rules of Practice of the Postal Rate Commission, the Office of the Consumer Advocate hereby submits interrogatories and requests for production of documents. Instructions included with OCA Interrogatories 1-4 to the United States Postal Service dated June 19, 1996, are hereby incorporated by reference.

Respectfully submitted,

*Emmett Rand Gatch* for

GAIL WILLETTE  
Director  
Office of the Consumer Advocate

*David Ruderman*  
DAVID RUDERMAN  
Attorney



OCA/USPS-48. Please provide the Summary Description of USPS Development of Costs by Segments and Components for FY 1994 and FY 1995 (library references SSR-1 and SSR-123) in electronic form.

OCA/USPS-49. Please refer to Attachment 2 to the response to OCA/USPS-T5-13. The total number of unweighted tallies listed in that table is 842,761. According to page 11 of SSR-22, the FY 1995 IOCS data set has 842,785 observations. Please explain why these two totals differ.

OCA/USPS-50. Please confirm that the sampling rates provided in response to OCA/USPS-T5-13b are the weekly sampling rates for IOCS sample offices. If you do not confirm, please explain.

OCA/USPS-51. This interrogatory refers to the cost based weighting used for the FY 1995 IOCS estimates.

a. Please confirm that the major advantage of using the cost based weighting methodology is that it simplifies the direct estimation of costs of activities measured by the IOCS. If you do not confirm, please explain.

- b. Witness Ellard's library reference SSR-111 (page 51) provides typical steps in survey weighting. The first stage is the "computation of design or base weights." Was such a step necessary for the IOCS weighting? If so, where is it documented? If this step was not necessary, please explain why not.
- c. Suppose one wanted to estimate the amount of employee time (person-weeks, person-hours, ...) spent performing a particular activity.
- i. Please confirm that this is a different estimate than the cost of performing that activity. If you do not confirm, please explain.
  - ii. Please confirm that IOCS data can be used to develop such estimates. If you do not confirm, please explain.
  - iii. Please confirm that the weighting factors used to estimate costs may not be appropriate for estimating time proportions. If you confirm, please explain how appropriate weighting factors would be constructed. If you do not confirm, please explain why cost and time are equivalent.
- d. Suppose one wanted to expand the IOCS tallies to estimate the proportion of employees potentially accessible only by

telephone for IOCS readings. For example, these estimates would be compatible with estimates of telephone readings in dockets prior to the change to cost based IOCS weighting.

- i. Can such an estimate be formed from IOCS data? If so, please explain how to use the FY 1995 IOCS weighting factors to form these estimates.
- ii. Is it more appropriate to use the design based weights or the cost based weighting factors for this type of estimate? Please explain.
- iii. If design based weights are more appropriate, please explain how they would be constructed.

OCA/USPS-52. Please refer to the FY 1995 c.v. estimates for IOCS (SSR-90, pages 18-20) and to the documentation of the variance estimation formulas for the FY 1993 IOCS estimates at Tr. 1/56-58 of Docket No. R94-1, June 1, 1994. Interrogatory OCA/USPS-31a asks for confirmation that these variance formulas were applied to the FY 1995 estimates. If OCA/USPS-31a is confirmed, then:

- a. Since CAG A/B do not constitute certainty strata for FY 1995 (Attachment 1 to the response to OCA/USPS-T5-13), is the variance formula for certainty strata (Tr. 1/57) still

correct? If it no longer applies, please provide the corrected formula and SSR-90 tables. If it no longer applies, please confirm that the effect of using the R94-1 variance formula would be to understate variance.

- b. Please refer to the formula for  $\text{var}(p_{ik})$  for the noncertainty strata at Tr. 1/57.
  - i. Please confirm that this formula represents the variance of a proportion estimate from a cluster sample design. If you do not confirm, please explain.
  - ii. Please confirm that variance formulas for cluster sample designs (with subsampling within selected clusters) generally have two terms—one capturing variance between the clusters (offices) and one capturing variance within clusters (tallies within offices). For example,<sup>1</sup> for subsampling with units of equal size, the formula would be

$$v(\bar{p}) = \frac{1-f_1}{n(n-1)} \sum_i^n (p_i - \bar{p})^2 + \frac{f_1(1-f_2)}{n^2(m-1)} \sum_i^n p_i q_i. \quad \text{If you do not confirm, please explain.}$$

---

<sup>1</sup> See Cochran, W. (1977), Sampling Techniques, 3rd Ed., page 279.

- iii. Please confirm that IOCS sampling for the non-certainty strata is a cluster sample (office selection) with subsampling within office (employee selection).
- iv. Please confirm that the formula for  $v(p_{ik.})$  at Tr. 1/57 only captures the variance between clusters with the  $1/[m_k(m_k-1)] \sum_j n_{kj}^2/[n_k/m_k]^2 * (p_{ijk}-p_{ik.})^2$  term. If you do not confirm, please explain how sampling error introduced by subsampling within selected offices is accounted for. If you confirm, please confirm that the effect of omitting the within cluster variance term is to understate variance. If you do not confirm, please explain fully.
- v. Please provide a textbook reference for the formula used for  $\text{var}(p_{ik.})$  at Tr. 1/57.

OCA/USPS-53. At Tr. 1/57 of Docket No. R94-1, June 1, 1994,  $C_k$  is defined as the actual (not estimated) cost associated with the  $k^{\text{th}}$  craft for a particular stratum (CAG) and postal quarter.

- a. Please provide the values of these costs for FY 1995.
- b. Please provide the values of these costs for each sample office for FY 1995.

- c. Please provide costs analogous to those provided in part (b) of this interrogatory, but estimated using cost weighted IOCS data.

OCA/USPS-54. Please refer to the response to OCA/USPS-T5-14. This interrogatory states, "One hundred eighteen (118) offices advanced from CAG C or lower to CAG B or A since the [FY 1993] sample was drawn. Fifty (50) of these offices were in the sample in FY 1993."

- a. Please confirm that the 50 offices that were in sample in FY 1993 are in the FY 1995 sample. If you do not confirm, please provide a list of these offices indicating which are in the FY 1995 sample. For each of the offices excluded from the FY 1995 sample, please include the reason for its exclusion.
- b. How many finance numbers correspond to these 50 offices?
- c. Please confirm that the 68 (118-50) CAG C or lower offices that were not in the FY 1993 sample but advanced to "certainty strata" (CAGs A and B) by FY 1995 had no chance of selection for the FY 1995 IOCS sample. If you do not confirm, please list each of the 68 offices along with its sample selection probability for the FY 1995 office sample.

- d. Other than these 68 FY 1993 CAG C or lower offices, are there any other offices in the "certainty strata" that are not included in the FY 1995 IOCS sample? Please provide a count of such offices and list the reason that each of them was not included in sample.
- e. In addition to any "certainty strata" offices that had no chance for selection in the FY 1995 IOCS office sample, were there any offices in the noncertainty strata that had no chance for selection in the FY 1995 IOCS office sample? If so, please list these offices, their CAG designations, and the reason for their absence from the sampling frame.
- f. Please define the office sampling frame for the FY 1995 IOCS sample and describe any known frame inadequacy or coverage problems associated with it.
- g. Does the FY 1995 sampled office population (the population of offices from which the office sample was selected) coincide with the target office population (the population of offices about which information was sought)? Please explain.



OCA/USPS-55. For CAG C and lower offices, are the probabilities of office selection for the FY 1995 IOCS the same for all offices in the same CAG? Please explain.


OCA/USPS-56. Please refer to Attachment 1 to the response to OCA/USPS-T5-13. This attachment shows that of the 600 CAG A/B finance numbers, 504 were in the FY 1995 IOCS sample and 96 were not.

- a. Please confirm that the 96 finance numbers absent from the sampling frame for FY 1995 had no chance of selection in the FY 1995 IOCS sample. If you do not confirm, please list the sample selection probability for each of these finance numbers for the FY 1995 finance number sample.
- b. Please confirm that 25235 (25331-96) CAG C-K finance numbers were not in the FY 1995 IOCS sample. If you do not confirm, please provide the correct figure.
- c. Of the finance numbers that were not in the FY 1995 IOCS sample, how many had no chance for selection for FY 1996? For each such finance number, please list the finance number, its CAG, and the reason for its absence from the sample frame.

- d. Please define the finance number sampling frame for the FY 1995 IOCS sample and describe any known frame inadequacy or coverage problems associated with it.
- e. Does the FY 1995 sampled finance number population (the population of finance numbers from which the finance number sample was selected) coincide with the target finance number population (the population of finance numbers about which information was sought)? Please explain.

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document upon all participants of record in this proceeding in accordance with section 3.B(3) of the special rules of practice.

  
DAVID RUDERMAN  
Attorney

Washington, D.C. 20268-0002  
August 22, 1996